

## Claims

1. A method for determining the time of execution for tasks to be performed by a mobile wireless communications terminal (101), wherein said execution is postponed to a later point of time, characterized in that said method comprises the steps of
  - receiving in the mobile terminal (101) instructions (301) to perform one or more tasks that can be executed with a delay (302),
  - storing said instructions in a queue,
  - checking (303) in said terminal (101) whether said terminal (101) is coupled to a charging device (102),
  - executing said tasks upon recognising an electrical connection between said mobile terminal (101) and said charging device (102).
2. A method according to claim 1, characterized wherein the step of receiving instructions includes receiving instructions from the user via the user interface (202) of said mobile terminal (101).
3. A method according to claim 1 or 2, characterized wherein the step of receiving instructions includes receiving instructions generated internally in said mobile terminal (101) triggered by a maintenance or update process.
4. A method according to claim 1, characterized wherein the method further includes the steps of transferring at least part of the data to be processed in said instructions to said charging device (102) for storage (209), and retrieving said data during said step of executing said tasks.
5. A method according to claim 1, characterized wherein the method further includes the steps of transferring at least part of the data to be processed in said instructions to said charging device (102) for storage (209) and processing (210), and retrieving processed data from said charging device (102) during said step of executing said tasks.
6. A method for determining the time of execution for tasks to be performed by a mobile wireless communications terminal (101), where said execution is postponed to a later point of time, characterized in that said method comprises the steps of
  - studying under a period of time the battery charging routines of the user,
  - calculating time intervals (401) with a high likelihood that said mobile terminal (101) is being connected to the charger (102),

- receiving in the mobile terminal instructions to perform one or more tasks that can be executed with a delay (402),
- storing the instructions in a queue,
- executing said tasks upon entering one of said calculated time intervals (403).

7. A method according to claim 6, **characterized** wherein the step of receiving instructions include receiving instructions from the user via the user interface (202) of said mobile terminal (101).

8. A method according to claim 6 or 7, **characterized** wherein the step of receiving instructions includes receiving instructions generated internally in said mobile terminal (101) triggered by a maintenance or update process.

9 A method according to claim 6, **characterized** wherein the step of executing said tasks in said time interval is made using a connection speed and/or communications channel providing at least the minimum accepted Quality of Service (QoS) at the lowest possible cost.

10. A method according to claim 6, **characterized** wherein the step of executing said tasks in said time intervals involves the additional step of checking if the mobile terminal (101) is coupled to a battery charging device (102), and concluding according to a predetermined set of rules whether to start executing any queued tasks or not.

11. A method for determining the time of execution for tasks to be performed by a mobile wireless communications terminal (101), where said execution is postponed to a later point of time, **characterized** in that said method comprises the steps of

- studying under a period of time the battery charging routines of the user,
- calculating time intervals (501) with a high likelihood said mobile terminal (101) being connected to the charger (102),
- receiving in the mobile terminal instructions to perform one or more tasks that can be executed with a delay (502),
- storing the instructions in a queue to be executed during said time interval (503),
- checking (504) in the mobile terminal (101) whether said mobile terminal is coupled to a charging device (102) upon entering said time interval, executing said tasks if that is the case;

- deferring the execution of said tasks in said time interval, if the mobile terminal (101) is not coupled to a charging device (102), until one of the following conditions applies (505), whichever occurs first:

- the mobile terminal (101) is connected to a charging device (102);
- the maximum time limit for postponing the execution of said tasks is approaching;
- the level of battery power available is approaching a limit putting execution of at least part of said postponed tasks at risk.

10 12. A mobile wireless communications terminal (101) capable of wireless speech and data communication over an air interface (204), said terminal (101) including processing means for processing tasks and timing means for performing timed execution of said tasks (203), said terminal (101) including memory means for storing instructions and data associated with each such task (201), characterized in  
15 that said terminal (101) is arranged to store received instructions for delayable tasks in a queue located in the memory (201), wait until coupled to a charging device (102) and then execute said tasks.

13. A mobile wireless communications terminal according to claim 12, characterized wherein at least part of the stored instructions for delayable tasks are  
20 originally received from the user via the user interface (202) of said terminal.

14. A mobile wireless communications terminal according to claim 12, characterized wherein at least part of the stored instructions for delayable tasks are generated by an internal maintenance or update process (201) of said terminal (101).

15. A mobile wireless communications terminal (101) capable of wireless speech  
25 and data communication over an air interface (204), said terminal including processing means for processing tasks and timing means for performing timed execution of said tasks (203), memory means for storing instructions and data associated with each such task (201), data transmission means (206) for data connection between said terminal (101) and said charging device (102),  
30 characterized in that said terminal (101) is arranged to transfer at least part of the data to be processed in said instructions to said charging device (102) for storage (209), and arranged to retrieve said stored data during said task execution.

16. A mobile wireless communication terminal according to claim 15, characterized in that it is arranged to transfer at least part of the data to be

processed in said instructions to said charging device (102) for processing (210), and arranged to retrieve processed data during said task execution.

17. A mobile wireless communications terminal (101) capable of wireless speech and data communication over an air interface (204), said terminal including  
5 processing means for processing tasks and timing means for performing timed execution of said tasks (203), memory means for storing instructions and data associated with each such task (201), characterized in that said processing means (203) of said terminal (101) are arranged to study under a period of time the battery  
10 charging routines of the user, calculate the time intervals with a high likelihood that said terminal (101) is being connected to the charger (102) and execute the instructions stored in the memory (201) to perform one or more delayable tasks upon entering one of said calculated time intervals.

18. A mobile wireless communications terminal according to claim 17,  
15 characterized in that said processing means (203) are arranged to execute said tasks in said time interval using a connection speed and/or communications channel providing at least the minimum accepted Quality of Service (QoS) at the lowest possible cost.

19. A mobile wireless communications terminal according to claim 17,  
20 characterized in that said processing means (203) are arranged to check during said execution phase if said mobile terminal (101) is coupled to a battery charging device (102), and conclude according to a predetermined set of rules whether to start executing any queued task or not.

20. A mobile wireless communications terminal according to claim 18,  
25 characterized in that it is arranged to communicate with the service provider and/or network carrier for enabling the utilization of favourable traffic conditions and transfer costs.

21. A mobile wireless communications terminal (101) capable of wireless speech and data communication over an air interface (204), said terminal including  
30 processing means for processing tasks and timing means for performing timed execution of said tasks (203), memory means for storing instructions and data associated with each such task (201), characterized in that said terminal (101) is arranged to study under a period of time the battery charging routines of the user, calculate time intervals with a high likelihood the mobile terminal (101) being  
35 connected to the charger (102), receive in the mobile terminal (101) instructions to

perform one or more tasks that can be executed with a delay, store the instructions in a queue (201) located in the memory (201), check in said terminal whether it is coupled to a charging device(102), execute said tasks if that is the case or defer the execution of said tasks in said time interval, if the mobile terminal (101) is not coupled to a charging device (102), until one of the following conditions applies, whichever occurs first:

- the mobile terminal (101) is connected to a charging device (102);
- the maximum time limit for postponing the execution of said tasks is approaching;
- the level of battery power available is approaching a limit putting execution of at least part of said postponed tasks at risk.

22. A mobile wireless communications terminal according to claim 12,17 or 21, characterized in that it is substantially an UMTS terminal.

23. A charging device (102) capable of charging the battery (205) of a mobile wireless communications terminal (101) , said charging device (102) including data transmission means (208) for a two-way data connection between said charging device (102) and a mobile wireless communications terminal (101), said charging device (102) including memory means for storing data (209), characterized in that said charging device (102) is arranged to store at least part of the data to be processed in the instructions associated with tasks to be executed by said terminal (101), and arranged to return said stored data to said mobile terminal (101) when requested by said terminal (101).

24. A charging device (102) capable of charging the battery (205) of a mobile wireless communications terminal (101) , said charging device (102) including data transmission means (208) for a two-way data connection between said charging device (102) and a mobile wireless communications terminal (101), said charging device (102) including memory means for storing data (209), characterized in that said charging device (102) comprises processing means (210) for the task execution sharing between said terminal (101) and said charging device (102).

25. A charging device according to claim 24, characterized in that it comprises processing means (210) for the task execution on behalf of said terminal (101).

26. A process for delayed execution of tasks in a mobile wireless communications terminal (101) capable of wireless speech and data communication over an air interface (204), said terminal including processing means for processing tasks and

timing means for performing timed execution of said tasks (203), said terminal including memory means for storing instructions and data associated with each such task (201), characterized in that said process comprises the steps wherein

- 5           - said mobile terminal (101) receives at least one instruction to perform a task (301),
- said terminal (101) identifies the task as a delayable background task (302),
- said terminal (101) stores the data related to the execution of delayable task in a queue located in the memory (201),
- 10          - said terminal (101) executes said task (303) using the processing means (203) of said terminal (101) upon recognising a connection between the battery (205) of said terminal (101) and the power source (207) of a charging device (102).

15       27. A process according to claim 26, characterized in that said received instructions for delayable tasks are received from the user via the user interface (202) of said terminal (101).

20       28. A process according to claim 26, characterized in that said received instructions for delayable tasks are generated internally in said mobile terminal (101), triggered by a maintenance or update process stored in the memory (201) and executed in the processing unit (203).

29. A process according to claim 26, characterized in that the information for said identification of delayable tasks is included in said received instructions.

25       30. A process according to claim 26, characterized in that the information for said identification of delayable tasks is found from a predetermined list of task urgencies stored in the memory of said terminal (201).

30       31. A process for delayed execution of tasks in a mobile wireless communications terminal (101) capable of wireless speech and data communication over an air interface (204), said terminal including processing means for processing tasks and timing means for performing timed execution of said tasks (203), said terminal including memory means for storing instructions and data associated with each such task (201), characterized in that said process comprises the steps wherein

- said mobile terminal (101) receives at least one instruction to perform a task (401),

- said terminal (101) identifies the task as a delayable background task (402),

- said terminal (101) stores the data related to the execution of delayable task in a queue located in the memory (201),

5       - said terminal (101) executes said task using the processing unit (203) upon entering the precalculated time interval (403) based on studying the battery charging routines of the user during which said terminal (101) is being connected to a charging device (102).

10       32. A process according to claim 31, characterized in that said terminal (101) checks during said time interval and prior to said task execution if said terminal (101) is coupled to a charging device (102), and decides according to a pre-determined set of rules whether to start executing said tasks or not.